lowing hydrogenation, the polyunsaturated fatty acid content of an oil may be reduced and the monounsaturated and/or saturated fatty acid content increased, so that knowledge of the degree of saturation is more important than the source of the oil in food products; (5) all saturated fatty acids do not have the same effect on serum cholesterol; and (6) "attention needs to be given to all sources of total fat and saturated fatty acids in the diet." The Council report acknowledged recommendations of other agencies[1] to reduce the total dietary fat and saturated fatty acid intake in "the American" diet.

Materials on therapeutic diets to reduce serum cholesterol levels are available from the National Cholesterol Education Program, the National Heart, Lung, and Blood Institute, the American Heart Association, and the American Dietetic Association.

The pamphlet *Nutrition and Your Health: Dietary Guidelines for Americans*, prepared by the Department of Health and Human Services and the US Department of Agriculture, and materials on how to use these guidelines are available from the Human Nutrition Information Service of the US Department of Agriculture.

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1. Report of the National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol. *Arch Intern Med.* 1988;148:36-69.

Relative Weight, Height, and Risk of Breast Cancer

To the Editor.—In their recent study, London et al[1] report decreased relative risks for premenopausal breast cancer among women of higher body mass index (BMI) compared with leaner women. Body mass index was found not to be related to the risk of postmenopausal breast cancer. The authors state: "Our findings suggest that adult adipose tissue is related to reduced risk of premenopausal breast cancer and does not increase appreciably breast cancer risk among younger postmenopausal women." This conclusion may be unwarranted, however, because of the potential bias introduced by the use of Quetelet's BMI (weight in kilograms divided by the second power of height in meters), which has been found to be inversely correlated with height,[2] and because height is associated positively with breast cancer risk in this and other[3] studies.

Distribution of Body Mass Index (BMI) and Height Association for Women From NHANES I Cohort

	Height Quartiles			
	1 (Low)	2	3	4 (High)
BMI quintiles				
1 (low)	308	234	232	227
2	316	223	205	176
3	315	202	157	135
4	447	252	217	139
5 (high)	451	264	229	154

Study.—We examined this BMI-height association for 4883 women aged 30 to 60 years from the National Health and Nutrition Examination Survey I cohort using the BMI and height categorization of London and colleagues. The joint distribution in the Table shows that (1) of women in the lowest BMI category, 31% and 23% are in the shortest and tallest height categories, respectively, and (2) for women in the highest BMI category, the corresponding proportions are 41% and 14%, demonstrating that leaner women, as defined by Quetelet's index, are more likely to be taller than overweight women. Conversely, among the shortest women, 17% and 25% are in the lowest and highest BMI categories, respectively, in contrast to 27% and 19% among the tallest women. Adjustment for age and menopausal status does not alter these findings.

Micozzi et al[2] demonstrated an inverse association between height and BMI (kg/m^2), $r = -.12$ ($P < .001$), while the correlation between height and BMI ($kg/m^{1.5}$) was a nonsignificant $-.03$. Evidence for a negative bias was provided recently by Swanson et al,[4] who found that elevated breast cancer risk at higher levels of BMI ($kg/m^{1.5}$) was diminished when the index kg/m^2 was used instead.

Comment.—We believe that the authors should check their study population to see whether Quetelet's index and height are correlated and, if so, should either reestimate their BMI relative risks adjusting for height or use a different BMI that is uncorrelated with height. Similarly, their relative risk estimates for categories of height should be reevaluated. Although comparability among studies through use of equivalent measures is desirable, this should not be at the expense of validity.

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1. London SJ, Colditz GA, Stampfer MJ, Willett WC, Rosner B, Speizer FE. Prospective study of relative weight, height, and risk of breast cancer. *JAMA.* 1989;262:2853-2858.
2. Micozzi MS, Albanes D, Jones Y, Chumlea WC. Correlations of body mass indices with weight, stature, and body composition in men and women in NHANES I and II. *Am J Clin Nutr.* 1986;44:725-731.
3. Albanes D, Jones DY, Schatzkin A, Micozzi MS, Taylor PR. Adult stature and risk of cancer. *Cancer Res.* 1988;48:1658-1662.
4. Swanson CA, Brinton LA, Taylor PR, Licitra LM, Ziegler RG, Schairer C. Body size and breast cancer risk assessed in women participating in the Breast Cancer Detection Demonstration Project. *Am J Epidemiol.* 1989;130:1133-1141.

In Reply.—Drs Albanes and Brown raise concern about confounding by height in our study because we used BMI at weight divided by height raised to the second power rather than as weight divided by height to the 1.5 power. No appreciable confounding could occur because the correlation between height and BMI is $-.03$ in our study. Even if the relation between height and BMI was similar to that in his study ($r = -.12$), our results still would not be appreciably distorted as the association of height and breast cancer was very weak (for extreme categories, the relative risk was 1.1 in premenopausal women and 1.3 in postmenopausal women).

The emphasis on uncorrelatedness with height as a criterion for an obesity index is an anachronism from before the computer era. The primary criterion should be maximal correlation with either absolute or relative body fat mass; there is no evidence that the exponent of 1.5 is superior on this basis.[1] If a residual correlation between an obesity index and height happens to exist, and height is an important risk factor in the data, the effect of height can be controlled by a variety of statistical methods, as would any confounding variable.

We also would like to bring to the attention of readers another large, prospective study published after we submitted our article.[2] The findings were similar to ours: an inverse association between BMI and risk of breast cancer was seen at premenopausal ages and a weak positive association (relative risk, ≈1.2 for extreme quintiles) was seen for older women. Although avoidance of obesity is desirable for many reasons, this is not likely to be an important way of preventing breast cancer.

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1. Willett WC. *Nutritional Epidemiology.* New York, NY: Oxford University Press; 1989.
2. Tretli S. Height and weight in relation to breast cancer morbidity and mortality: a prospective study of 570 000 women in Norway. *Int J Cancer.* 1989;44:23-30.

Problems With Condom Catheters

To the Editor.—This letter is in response to the question regarding "Problems With Condom Catheters."[1] We often deal with these problems while treating patients with spinal cord inju-